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THE
NEW ZEALAND ENTOMOLOGIST

Vol. 1, No. 5. NOVEMBER, 1955

THE FINAL INSTAR LARVA OF *SERICOSPILUS CUMBERI* GIVEN (COLEOPTERA, SCARABAEIDAE)

By J. M. HOY
Department of Scientific and Industrial Research, Entomological Research Station, Palmerston North

In the material examined, the final instar larva of *Sericospilus cumberi* had an average overall length of 10.5 mm., and a head capsule width of 2.0 mm.

Epipharynx.—The epipharynx (Fig. 1) is similar in general outline to that of *Sericospilus aenealis* (Broun), the anterior and lateral margins being angulate with four indentations of varying depth on either side of the apex. Both the zygum and epizygum are complete; five heli are present, arranged in an arched contiguous series; ten punctures occur on the zygum. Acroparia well clothed with chaetae. Chaetopariae well developed with few punctures interspersed among the chaetae. Gymnopariae prominent, almost free of chaetae, with numerous small punctures particularly on the anterior region and towards the plegmatia. Plegmatia moderately developed, carrying ten distinct plegma on each side; acanthoparial chaetae at each plegma, decreasing in length posteriorly. Pedium asymmetrical, approximately twice as long as broad. Laeotorma well developed with a prominent pternotormal process. Dexitorma normal, a pair of nesia are present. Crepis distinct with three large crepidial punctures.

Mandibles.—The mandibles (Fig. 2) carry one long chaeta anteriorly and an irregular series of nine shorter chaetae posteriorly on the well defined scrobis. Few scrobal punctures are present. In the baso-lateral region there are three short spines and five punctures, and on the dorso-manductorial area, three short spines and a number of punctures. The two large punctures on the postero-dorsal scissorial area are well marked, the anterior one being accompanied by a short stout spine.

1

2

3

Raster. (Fig. 3).—Palidia polystichous, medially united, made up of pali varying in length to width ratio between 4: 1 and 17: 1. Septula small, hemi-circular, overlaid by longer pali. Tegillar bristles absent. Small number of preseptular bristles present.

Material examined.—Six larvae taken from soil beneath heathlike manuka *(Leptospermum scoparium* Forst.) at Te Kao, Northland, on 26th July, 1954. Soil type—Te Kopuru sand. This area is some forty miles north of the type locality for the species.

The writer wishes to thank Mr B. B. Given for the identification of a laboratory reared adult of *S. cumberi*.

For explanation of the terminology see Hoy and Given (1952).

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NOTES ON EXOTIC AND NEW ZEALAND INSECTS

By E. S. GOURLAY
Cawthron Institute, Nelson

Otiorrhynchus scabrosus Marsh. (Col., Curculionidae)

While in Napier in May, 1940, the writer was shown four live weevils which he later identified as the European *Otiorrhynchus scabrosus* Marsh. These weevils were collected by Mr L. Bisley in the garden at his home and he stated that he had previously obtained a number of specimens at different times; so it is evident that *O. scabrosus* was breeding in Napier prior to 1940. The New Zealand host plant of this weevil is not known.

Phlyctinus callosus Boh. (Col., Curculionidae)

The occurrence of *Phlyctinus callosus* Boh. in Nelson, illustrates clearly the necessity for regulating the transfer of nursery stock from areas known to have insect pest species of restricted distribution present in them, to others which are free from these noxious types. In 1946 an iris and a carnation were obtained by the writer from a horticultural firm in Wanganui: these plants, which showed no sign of insect damage, were balled with earth, secured in hessian and packed for protection in a large quantity of the leaves of living cowgrass. The plants were placed as received in the garden and during the following year other plants were noticed to have the leaves badly pitted by the feeding of adults of this weevil, an insect previously unknown in Nelson. Hand picking of the feeding adults at night was resorted to and the population has been maintained at survival level only, since that period. *P. callosus*, indigenous to Cape Province, South Africa, probably arrived in New Zealand in the late eighties; the first record of

its presence here is the description by Broun in 1893, under the name of *Rhynchogonus germanus*. Broun's specimens came from "Mt. Egmont, near Stratford".

No plants other than those of a succulent nature have been observed as hosts for the adults in Nelson and it is noteworthy that in the following plant host list, the South African flora is well represented in the Crassulaceae and Mesembryanthemaceae.

Host List of *Phlyctinus callosus* Boh. in Nelson

Crassulaceae

Adromischus (Cotyledon) phillipsae (Marl.) v.P.
Aeonium holochrysum Webb et Berth.
—— *urbicum* (C.Sm.) Webb et Berth.
Crassula corymbulosa Link et Otto.
—— *cultrata* L.
—— *multicava* Lem.
—— *rosularis* Haw.
Echeveria (Urbinia) agavoides Lem.
—— *fulgens* Lem.
—— *gilva* E. Walth.
—— *gibbiflora* var. *schuldtii* DC.
—— *multicaulis* Rose.
—— *nodulosa* (Bak.) Otto.
—— *pubescens* Schlecht.
—— *scaphophylla* X Hort.
Kalanchoe (Bryophyllum) tubiflora (Harvey), R. Hamet.
Rochea coccinea (L.) DC.
Sedum adolphii Hamet.
—— *ellacombianum* Praeg.
—— *nussbaumeriana* Bitter.
—— *palmeri* S. Wats.

Mesembryanthemaceae

Bergeranthus multiceps (Salm.) Schwant.
—— *scapiger* (Haw.) N.E.Br.
Cheiridopsis spp.
Erepsia inclaudens (Haw.) Schwant.
Faucaria albidens N.E.Br.
—— *duncanii* L.Bol.
—— *lupina* (Haw.) Schwant.
—— *tigrina* (Haw.) Schwant.
Glottiphyllum linguiforme (L.) N.E.Br.
Pleispilos willowmorensis L.Bol.

Cactaceae

Epiphyllum spp. Several hybrids.

Tephritis fascigera Mall. (Dipt., Trypetidae)

On a visit to Bulwer at the entrance of Pelorus Sound, Nelson, in January of this year (1955) plants of fireweed, *Erechthites atkinsoniae* F. Muell. were found with many galls present. About 40% of the terminal vegetative shoots, including flower heads, were affected. The galls contained mainly well developed larvae and an occasional early pupa. On rearing this material the association was found to be that of the trypetid fly, *Tephritis fascigera* Mall.

A RECORD OF THE WHITE BUTTERFLY (*PIERIS RAPAE* L.) ON CHATHAM ISLAND

By E. A. MADDEN
Department of Agriculture, Palmerston North

During his visit to Chatham Island in November, 1952, the writer saw occasional white butterflies in the vicinity of Waitangi, the island's port.

Residents expressed some doubt as to whether it was during the summer of 1948-49 or the summer of 1949-50 that they first saw the butterflies.

In subsequent years the insects have spread and multiplied and the writer observed them in many parts of the island during February, 1954. It is not known whether they have yet reached Pitt Island, fifteen miles south of Chatham Island. As supplementary crops and garden vegetables could be affected by the larvae an endeavour will be made to bring the pest under control by introducing parasites to the island during the 1954-55 season.

Since the above note was written liberations of **Pteromalus puparum** L. and **Apanteles glomeratus** L. have been made on Chatham Island.—Editor.

INTERCEPTION OF POTENTIALLY DANGEROUS PESTS TO NEW ZEALAND, 1950-55

By G. A. H. HELSON
Department of Agriculture, Wellington

Records of interceptions of potentially dangerous plants and animals have now been kept by the Plant Quarantine Service of the Department of Agriculture for some years.

The following table shows the number of animals sent by Plant Quarantine Officers for identification during the period November, 1950, to April, 1953.

Thysanura	2	Arachnida	20
Orthoptera	14	Mollusca (including one Giant African Snail)	5
Odonata	2	Vertebrata (Snakes)	4
Isoptera	1	Nematoda	2
Psocoptera	2	Annelida	1
Thysonoptera	3	Crustacea (Crab)	1
*Hemiptera	56	Isopoda	1
Lepidoptera	20	Diploda	2
Coleoptera	103	Chilopoda	2
Hymenoptera	18		
Diptera	45		

These figures show that pests most frequently intercepted belonged to the Orders Coleoptera, Hemiptera, Diptera, Arachnida, and Hymenoptera, and that the greatest number intercepted belonged to the Coleoptera. This is understandable when it is remembered that many beetles are intercepted in food imports into New Zealand.

Some of the most potentially dangerous interceptions during this period were:—

Achatina fulica Bowdick. Giant African snail—in a jet aircraft engine crate.

Euscepes postfasciatus Fairm. Kumara weevil from Cook Islands and Pitcairn. In kumaras.

Dacus ferrugineus tyroni Frogg. Queensland fruit fly. In oranges from Australia by air.

Ceratitis capitata Wied. Mediterranean fruit fly. In oranges by sea from Spain.

Aphodius fimetarius (L.). Grass grub. On roots of Kalmia plants from Holland.

Lepidosaphes beckii (New.) Purple scale. In citrus from Pacific Islands and Italy.

†*Dasyneura mali* Kieffer. Apple leaf-curling midge. In apple stocks from Holland.

Eurinoscopus punctatus (Ev.) and other jassids. By air in aircraft from Australia.

*Most of the Hemiptera intercepted belonged to the sub-order Homoptera.

†This species has become established and is spreading in New Zealand. It was an introduction prior to the new conditions of post entry quarantine of nursery stock imposed under Plant Quarantine Regulations, 1952.

Anoplognathus viridiaeneus Christmas beetle. In aircraft from Australia.

Mantid eggs. On nursery stock by air from Australia.

Nezara viridula L. Green vegetable bug. By air from Australia.

A gall wasp. In nursery stock from Holland.

A bumble bee. On geraniums by air from U.S.A.

Xylothrips religiosus Boisd. Auger beetles. In Scout tent poles, Samoa.

Eumerus strigatus Fall. Lesser bulb fly. In bulbs from Holland.

Culex fatigans Wied. and other mosquitoes. In aircraft from Australia.

An unknown Lymantriid. In nursery stock from Holland.

Common European land snail. In nursery stock from Holland.

Demansia textilis Dun & Bibr. A brown snake in bulk wheat from Australia.

The list includes many major pests of countries outside New Zealand which could establish here and become pests of our crops.

The following table gives a list of plants and other articles infested by pests on arrival in New Zealand for the period November, 1950 to 31st December, 1953.

Allium cepa L. Onion bulbs
Acer sp. Maple
Amelanchiar sp.
Anacardium occidentale L. Cashew nuts
Ananus sativis Schult Pineapple
Anona sp. Custard apple
Apium graveolens L. Celery
Arachis hypogaea L. Peanuts
Araucaria excelsa R. Br Norfolk Island Pine
Areca sp. Betel nut
Begonia sp. Begonia
Bertholletis sp. Brazil nuts
Bulbs (mixed).
Cactaceae
Cajanus cajan (Spreng) Pigeon pea
Camellia sp. Camellia
Cane baskets
Carica papaya L. Papaw
Carya pecan Engler & Graebn. Pecan nut
Chrysanthemum sp.
Citrus sinensis Osbeck Sweet oranges
Citrus maxima Osbeck Grapefruit
Citrus limonia Osbeck Lemon
Citrus nobilis Lour. Mandarin
Cocos nucifera L. Coconut
Codiaeum sp. Croten leaves
Coffea sp. Coffee
Colocasia sp. Taro
Curry and tumeric powder
Cut flowers (mixed)

Dahlia sp. (tubers)
Daphne cuttings and sprays
Diospyras sp. Persimmon
Erica sp. Heath
Erythonium bulbs Lilies
Euclisa sp. Legumes
Ferns.
Ficus Dried figs.
Fragaria vesca L. Strawberry
Gerbera sp. Gerbera
Gladiolus sp. Corms
Harpullia sp.
Helianthus sp. Sunflower
Hibiscus sp.
Howea sp. Kentia palms
Hyacinth sp. Bulbs
Ipomaea batatas Poir. Kumara
Iris sp. Rhizomes
Juglans sp. Walnut
Kalmia sp. Roots
Nuts (mixed)
Nymphaea Water lily
Orchidaceae Orchids
Palm and Palm seeds
Persea gratissima Gaertn. Avocado pear
Passengers, luggage and effects
Phaseolus sp. Mixed beans
Packing cases
Phoenix dactylifera L. Dates
Poinsettia sp. Poinsettia
Passiflora edulis Sims passionfruit
Prunis communis Fritsch almonds
Psidium sp. Guava
Pyrus malus L. Apple stock and fruit
Rhododendron sp. Rhododendron
Richardia africana Kunth. Arum lily
Ribes sp. Currants
Rosa sp. Roses
Rubus sp. Raspberry
Seeds
Scilla sp. Bluebell bulbs
Soil
Solanum tuberosa L. Potato
Straw packing and dried grass
Succulents
Tillia sp. Lime stocks
Timber
Tropaeolum sp. Nasturtium seeds
Triticum sp.Wheat
Tulipa sp. Tulips
Vegetables dried
Verbena sp. Verbena
Vitis sp. Dried raisins and grape vine stock
Zea mays L. Maize
Zingiber sp. Ginger rhizomes

From this it will be seen that pests are carried to this country in a great variety of articles from overseas.

By far the greatest number of interceptions are made in importations from Australia, closely followed by those from the Pacific Islands, the United Kingdom, Holland, and India and Malaya. Most of our interceptions thus come from the Australian zoo-geographical region, followed by the Palaearctic, and Oriental Regions. Relatively few interceptions occur from the Nearctic, Neotropical and Ethiopan Regions. From this it is evident that the greatest danger lies in the introduction of pests present in the Australian

Palaearctic and Oriental zoo-geographical regions, but not present in New Zealand. The introduction of fast trans-continental aircraft, however, means that close attention must be paid to the possibility of Nearctic region pests reaching New Zealand by this means. The least risk at present would appear to be pests from the Neotropical and Ethiopan regions.

Finally, it is of interest to note that for the twelve months ending 31st December, 1954, 183 pests and diseases were intercepted, and of these 126 were insects; 40 arrived by air, 88 by sea, and 55 by parcels post. This represents an increase of 63 over the numbers of interceptions for 1953.

The data presented here shows clearly that in the course of international trade, many pests continue to arrive in New Zealand on a wide variety of host plants from all over the world; some zoogeographical regions presenting greater hazards than others. The advent of air travel has accentuated the dangers, and with increasing speeds of inter-continental aircraft, the danger from this source will continue to increase in the future. To meet this threat, the efficiency of the country's Plant Quarantine Service must ever increase. Every effort is being made by the Department to meet this requirement by the in service training of its officers, and by the provision of modern plant quarantine fumigation stations, the first of which opened in Wellington in 1954.

AN INSTANCE OF PHORESY

By J. S. EDWARDS
Department of Zoology, Auckland University College

On 12th Mar., 1955, at Epsom, Auckland, the unusual behaviour of a housefly (*Musca domestica* L.) at a window attracted the writer's attention. On examination, the fly proved to be making violent cleaning movements with its legs, in an effort to dislodge three small pseudoscorpions which were firmly attached to it. The fly was captured and in spite of continued movements, the pseudoscorpions did not relinquish their hold until preservative was added.

The pseudoscorpions were attached, one to each mid-tibia and one to a hind tibia, by the pedipalp of one side.

All were immature, with body lengths (including chelicerae) of 2 mm.; they were doubtless the young of the not uncommon house pseudoscorpion.

While this is the first occasion on which the writer has observed this example of phoresy, it is apparently a characteristic of some pseudoscorpions. Mr Given of the Entomological Research Station, Nelson informs me that he observed the same relationship in Whangarei earlier this year, and has had similar cases recorded from Auckland and New Plymouth since March. He also states that it is most unusual to have so many such cases recorded in a single season.

The Cambridge Natural History, Warburton (1923), notes:—". . . . one or two species sometimes make themselves conspicuous by the remarkable habit of seizing hold of the legs of flies and being carried about with them in their flight." The phenomenon is of even wider occurrence than this statement suggests. Vachon (1949) remarks, "Environ 25 espèces de Pseudoscorpions . . . . peuvent etre transportés par d'autres animaux: Diptères, Opilions, Hymenoptères, Orthoptères, Hemiptères, Coléoptères, Oiseaux . . . . Les explanations de ce curieux phénomène ou phoresie sont diverses. Il semble cependent qu'un tel transport est accidental et motivé par la faim. Dans certain cas (Diptères) le Pseudoscorpion est transporté par sa proie qui, trop forte enlève."

It may be that further instances of this interesting behaviour are known to entomologists in New Zealand.

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NOTES AND RECORDS OF SOME PESTS OF ECONOMIC IMPORTANCE

By R. A. HARRISON

Department of Scientific and Industrial Research, Plant Diseases Division, Auckland

The following notes or new records of occurrence, localities or hosts of some pests of economic importance in New Zealand are compiled from specimens examined over the last few years. One of them, *Aceria sheldoni*, has not previously been recorded from New Zealand.

1. Citrus Bud Mite, *Aceria sheldoni* (Ewing).

This eriophyid mite was first found in New Zealand on Lisbon Lemon fruit in a domestic orchard at Mt. Albert in December, 1953. Subsequent surveys of lemon growing areas in New Zealand by officers of the Department of Agriculture showed that the mite was present in Auckland, Tauranga and Gisborne.

Lemon fruit when attacked develop into grossly distorted shapes. Buds and leaves are also attacked and become stunted. Cunningham (1925, p.346-7) described and illustrated malformed lemon fruit and suggested that the cause was due to a defective strain. Symptoms illustrated are typical of bud mite injury and it is thus probable that the mite has been present in New Zealand for at least 30 years.

The mite was described by Ewing (1937). Identification of New Zealand specimens was confirmed by L. R. Jeppson, University of California and H. H. Keifer, Department of Agriculture, California.

2. Tiger Slug, *Limax maximus* Linn.

Records of occurrence. Herne Bay, Auckland, on cabbage, January, 1953 *(Anon).* Blenheim: 4th March, 1953 *(D. McCallum, Dept. of Agric.).* Kaitaia: in garden, 26th January, 1954 *(Anon).* Specimens identified by Mr A. W. B. Powell, Auckland Museum.

3. Black Beetle, *Heteronychus sanctae-helenae* Blanch.

Adults appear as early as December and are present in numbers through to April. During February and March, 1955, large numbers were attracted to street lights in the North Shore and Ponsonby suburbs of Auckland.

4. Flour Beetle, *Gnathocerus cornatus* Fab.

Found eating holes in black rayon fabric in a shop in Auckland on 9th March, 1955. The infestation originated in a kitchen above the shop. Damage was serious due to the holes but extensive feeding was not apparent.

5. White Fringed Beetle, *Graphognathus leucoloma* Boh.

Records of occurrence. Hastings: larvae attacking garden plants, November, 1944; adults bred from larvae, emerged March, 1954 *(T. Conway, Dept. of Agric.).* Palmerston North: larvae in potato tubers, 1949 *(B. Coleman, Dept. of Agric.).* Muriwai: adults feeding on foliage of many plants, 5th March, 1954; larvae and adults January

to March, 1955 *(B. Coleman, Dept. of Agric.)*. Warkworth: 1 adult on grass, 5th March, 1954 *(R. A. Harrison)*. Mt. Albert, Auckland: adults in gardén, March, 1955 *(R. A. Harrison)*.

The 1944-45 and 1949 infestations did not become established. The infestation at Muriwai was heavy when first noticed. It has survived one season and in 1955 the population of adults was high. Damage to potato tubers by larvae was observed in February and March, 1955.

Larvae live in soil and attack roots of many economic crops. Adults feed on leaves of an extensive range of plants.

6. Termite, *Kalotermes tuberculatus* Frogg.

Record of occurrence. Howick: soldiers and nymphs in power pole, 9th March, 1955 *(G. Cronin)*.

Recorded previously by Kelsey (1942) from Takapuna.

7. Lily Thrips, *Liothrips vaneeckei* (Preisner).

Record of occurrence. New Plymouth: on *Lilium* bulbs, 31st March, 1955 *(Anon)*.

Previously known in New Zealand from collections taken from imported bulbs.

8. Cockroach, *Periplaneta americana* (Linn).

Record of occurrence. New Plymouth: 23rd March, 1954 *(Anon)*.

Established in Auckland City for several years and spreading in that area. Becoming established in other areas of New Zealand.

9. Sphinx Moth, *Sphinx convolvuli* Linn.

Records of occurrence. Auckland: larvae February to April, 1954 and 1955; pupa, 10th March, 1955; larva, 3rd May, 1954. Kaitaia: larva, March, 1955. Waihi: larva, March, 1955. Warkworth: larva, March, 1955.

The record of 3rd May, 1954, is the latest known for the larval stage. Food plants associated with the larval records above are kumara and convolvulus.

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NOTES ON NEW ZEALAND LEPIDOPTERA

By K. A. J. WISE
Department of Scientific and Industrial Research, Plant Diseases Division, Auckland

The Oak Leaf-miner, *Lithocolletis messaniella* Zeller (Gracillariidae)

During the 1954-55 season adults of *Lithocolletis messaniella* Zeller and oak leaves mined by this species were found for the first time in Canterbury. Specimens came from Christchurch, Ashburton and Timaru, the latter place now being the southern limit to the distribution of this species. Further food plant records, obtained during this season, are copper beech and apple in Nelson and ornamental cherry and apple (Cox's Orange Pippin variety) in Wanganui.

The Gum Emperor Moth, *Antheraea eucalypti* Scott (Saturniidae)

This Australian species was recorded in New Zealand, from one specimen only, by Miller (1925, p.40). However, an earlier occurrence is known as one moth in the Auckland Museum Collection was bred from a larva sent in by Miss O. Lloyd from Wanganui in January, 1915. The species is now firmly established at Wanganui where, in season, the caterpillars are quite numerous. Larvae have also been taken in Palmerston North.

The insect overwinters in the pupal stage and, in New Zealand, adults emerge from October to January.

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A NOTE ON SECONDARY SEXUAL DIMORPHISM IN *NASCIOIDES ENYSI* (SHARP), (COLEOPTERA, BUPRESTIDAE)

By A. M. STUART
Department of Scientific and Industrial Research, Entomological Research Station, Cawthron Institute, Nelson

The purpose of this note is to draw attention to the fact that the males and females of *Nascioides enysi* (Sharp), one of the two species of buprestids native to New Zealand and a pest of some importance in the South Island, can be readily distinguished from each other without unduly disturbing them.

While doing some work with this insect on the West Coast of the South Island, it was noticed that the frons of some of the adults was coloured a bright metallic red whilst that of others was a dull purple. This metallic colour on the head can best be seen if the insect is looked at face on. G. V. Hudson (1934, p.74) noticed this variation and states:—

". . . . specimens are occasionally met with having the whole of the face brilliant metallic crimson."

It was found on further examination, however, that those beetles with the red frons were invariably males, while those with the duller purple frons were all females. Although the sex ratio was not positively determined, it would appear that the males are by no means outnumbered by the females.

The male can be further distinguished from the female, so far as colour is concerned in that:—

(a) The anterior faces of the femora and tibiae of the first pair of legs of the male are a bright metallic green and bronze while the corresponding parts of the female are a metallic purple and much duller, as are the other legs of both male and female.

(b) The antennal segments of the male are a metallic blue except for the proximal part of the scape which is the same red colour as the frons. The segments of the female antennae are all of the same metallic purple as the rest of her body.

(c) The labrum of the male is of the same metallic blue colour as the male flagellum while the labrum of the female is again a metallic purple.

It should be noted that the brilliant structural colours found among beetles are very difficult to describe, and that the colours indicated are therefore approximate.

Whether these differences in colour are of any significance to the insect is not known. It may be that they play some part in the behaviour of the adult with regard to sex recognition. It should be noted, however, that the range of colours to which *Nascioides* is sensitive will almost certainly prove to be different from our own range of sensitivity, and it is possible, therefore, that these colours may be of no use whatsoever to the insect.

It is hoped that being able to determine whether or not a particular *Nascioides* is a male or a female, without actually handling the insect, will prove useful in future field observations on the mating behaviour of this insect.

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A PRELIMINARY NOTE ON THE GENUS *PERICOPTUS* (SCARABAEIDAE, DYNASTINAE)

By B. B. GIVEN

Department of Scientific and Industrial Research, Entomological Research Station, Cawthron Institute, Nelson

While the author was in London recently, it was found possible to examine and dissect genitalia from types of the genue *Pericoptus* in the collection of the British Museum (Natural History). It is not intended to publish any extensive notes on the genus at present, but it is considered worth while to make available drawings of male genitalia and hind tibiae of the four species examined.

Pericoptus is the only dynastine genus endemic to New Zealand, and has received no serious attention since description of the five known species. The genus, being confined to sandy sea-shore and river flood-plains areas, occupies a discontinuous, highly characteristic habitat. Being weak fliers in the adult stage, potentialities for dispersal and intermingling of populations are limited, and the possibility of extensive speciation thus extended. It is

therefore probable that the genus contains a wider specific complex than is at present indicated by the literature, and should be worthy of some attention.

The writer gratefully acknowledges facilities placed at his disposal by the authorities of the British Museum (Natural History), making possible the examination of material herein illustrated, and for permission to publish this paper.

Genus *Pericoptus* Burmeister 1847.

Scarabaeus Fabricius 1775; Syst. Ent. : 3.
1792; Ent. Syst., 1: 2.
Olivier 1789; Entomologie, 1, No. 3.

Geotrupes Fabricius 1798; Ent. Syst., Suppl. : 7.

Cheiroplatys Kirby. *In* Hope 1837; Coleopt. Man., 1: 84.

Pericoptus Burmeister 1847; Handbk. Ent., 5: 111.

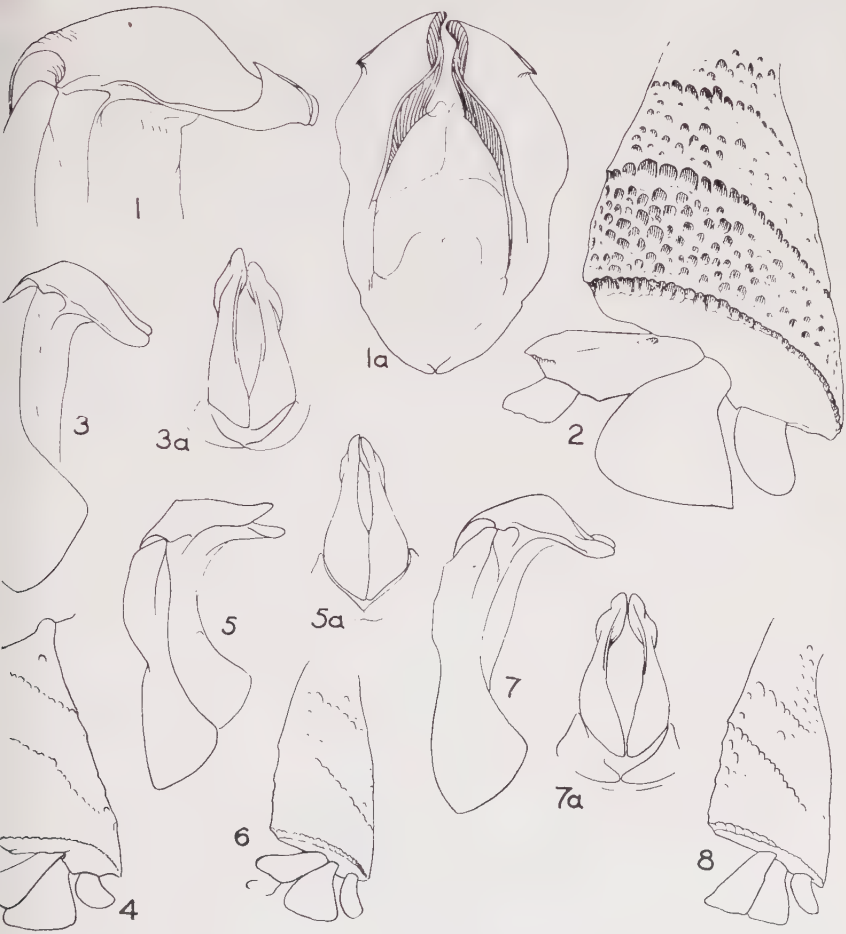
1. (Genotype). *P. truncatus* (Fabricius) 1775. Syst. Ent., 6 *(Scarabaeus)*.
   1798. Ent. Syst. Suppl. 7 *(Geotrupes)*.
   Kirby, *in* Hope, 1837; Coleopt. Man. 1, 84 *(Cheiroplatys)*.
   White, 1846; Voy. Erebus and Terror, Zoology, Insects, 9 *(Cheiroplatys)*.
   Burmeister 1847; Handbk. Ent., 5, 111 *(Pericoptus)*.
   Broun 1880; Man. N.Z. Coleopt., 1, 271 *(Pericoptus)*.
   Type—Banks Coll., Brit. Mus. (Nat. Hist.). New Zealand.
   Figs.—1, 1a, 2.

2. *P. punctatus* (White) 1846; Voy. Erebus and Terror, Zoology, Insects, 9 *(Cheiroplatys)*.
   Broun 1880; Man. N.Z. Coleopt. 1, 272 *(Pericoptus)*.
   Type—Brit. Mus. (Nat. Hist.). Waikouaiti.
   Figs.—3, 3a, 4.

3. *P. stupidus* Sharp 1878; Ent. mon. Mag. 15, 50.
   Broun 1880; Man. N.Z. Coleopt., 11, 272.
   Note—Types not seen. Type locality, "Otago" indicates that it may be synonymous with *punctatus* White, particularly as Sharp himself considered the two species to be allied without seeing White's type.

4. *P. nitidulus* Broun 1880; Man. N.Z. Coleopt., 11, 273.
   Type—Broun Coll., Brit., Mus. (Nat. Hist.) Specimen bears no locality data, but in description, Broun states locality to be Great Barrier Island.
   Figs.—5, 5a, 6.

5. *P. frontalis* Broun 1904; Ann. Mag. Nat. Hist., (7) 14, 55.
   Type—Broun Coll., Brit. Mus. (Nat. Hist.). Cromwell.
   Figs.—7, 7a, 8.



KEY TO FIGURES

(1) *P. trunctatus* (Fabr.) Male genitalia, lateral.
(1a) „ „ „ génitalia, posterior.
(2) „ „ „ hind tibia, lateral.
(3) *P. punctatus* (White) Male genitalia, lateral.
(3a) „ „ „ genitalia, posterior.
(4) „ „ „ hind tibia, lateral.
(5) *P. nitidulus* Broun Male genitalia, lateral.
(5a) „ „ „ genitalia, posterior.
(6) „ „ „ hind tibia, lateral.
(7) *P. frontalis* Broun. Male genitalia, lateral.
(7a) „ „ „ genitalia, posterior.
(8) „ „ „ hind tibia, lateral.

Note—

All figures drawn from types except 1, 1a, 2 which were from a specimen in the Broun collection taken at Tairua, and found on external examination to be identical with the type.

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